Behavior Change Techniques for Reducing Interviewer Contributions to Total Survey Error

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Key Words

CARI
Rapid Feedback
Interviewer Training
Behavior Coding
Continuous Quality Improvement

Talk Outline

Background
Data and Methods
Rapid Feedback from CARI
Rapid Feedback of Alerts from Data
Impact on Key Survey Estimates
Conclusion
Most interviewer training delivered *before* data collection, **BUT**

- Most adults learn better on-the-job, just-in-time, by doing, with peers

Field interviewers work remotely in face-to-face survey operations, so very hard to see what they are doing, **BUT**

- Tools available now to bring field operations under much greater control
- General field interview quality can be improved with rapid feedback (verbal and written combined) of results from behavior coding of CARI recordings
Goals of This Research

❯ Replicate research findings on impact of rapid feedback from CARI behavior coding on general interview quality

❯ Determine whether rapid feedback from CARI can impact specific interview items that are instrumental in development of key survey statistics

❯ Determine whether rapid feedback from automated analysis of survey data can impact data quality
Medical Expenditure Panel Survey (MEPS): Calendar Series

Thanks for keeping these records. Let me review the records with you first. Please tell me who the record is for, and the type of record you’re looking at, such as a calendar, or a provider or insurance statement, patient portal information, payment records, prescription records such as medicine bottles, or something else.

Do you have a calendar with health entries?

NAVIGATION: Complete the grid in order of respondent’s answers.

1. YES, HAS CALENDAR WITH HEALTH CARE ENTRIES FOR LUCY ANN BROWN
2. NO, DOES NOT HAVE CALENDAR WITH HEALTH CARE ENTRIES FOR LUCY ANN BROWN
The next set of questions help make sure we haven’t missed any additional health care for any of the people living here.

As I ask the questions, please look at the corresponding show cards and think about any additional health care each person received.

Let’s start with hospitals. Looking at card PP-1, since August 15, 2018, were you admitted to the hospital for any period of time?

<table>
<thead>
<tr>
<th>Lucy Ann Brown</th>
<th></th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. YES</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. NO</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
CARIcode Rapid Feedback Process

- Interview 1 (Day 0)
- CARIcode (Day 1)
- Feedback Scheduled (Day 2)
- Feedback (Day 3)
- Interview 2 (Day 4)
## Both Question Series, CARIcode Results

<table>
<thead>
<tr>
<th>Interviewer Behavior</th>
<th>Before Feedback</th>
<th>After Feedback</th>
</tr>
</thead>
<tbody>
<tr>
<td>Followed Protocol Exactly (Verbatim for PP, Respondent’s Order for CA)</td>
<td>33.4%</td>
<td>43.4%</td>
</tr>
<tr>
<td>Maintained Meaning but Did Not Follow Protocol Exactly</td>
<td>56.8%</td>
<td>52.9%</td>
</tr>
<tr>
<td>Meaning Not Maintained</td>
<td>9.8%</td>
<td>3.7%</td>
</tr>
<tr>
<td>( N )</td>
<td>3072</td>
<td>2187</td>
</tr>
</tbody>
</table>
Clarification in Feedback Session

Verbatim vs. Meaning Not Maintained: Feedback by Interviewer Clarification

- Before
- After

Interviewer_Clarification
- Ask for Clarification
- Not Ask for Clarification

Probability
Clarification Effect during Feedback Driven by Provider Probes

Followed protocol vs. Not Followed Protocol for CA Items

Verbatim vs. Meaning Not Maintained for PP Items

Before Feedback After Feedback

Probability

Interviewer_Clarification
Ask for Clarification Not Ask for Clarification

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Interviewer experience did not explain different effects of asking clarification

CA series’ flexible grid requires “off-the-grid” interviewer navigation
• perhaps even after getting clarification, some interviewers just don’t get it

Nature of question content differs between 2 series
• maybe some interviewers don’t believe CA makes a difference, even after getting clarification
Quality Alerts from Data

❯ Implemented through field supervisor dashboard
❯ Data transmitted overnight from interviewers in the field automatically checked for specific anomalies that needed immediate attention
❯ Anomalies popped up on supervisor dashboard the next morning
❯ Supervisors reviewed anomalies with interviewers and documented status in the alert section of the dashboard
### Data Quality Alert Distribution

<table>
<thead>
<tr>
<th>Alert Type</th>
<th>Count</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Record usage (general) All medical events</td>
<td>1968</td>
<td>84.4</td>
</tr>
<tr>
<td>Record usage Prescribed Medicines (65+)</td>
<td>243</td>
<td>10.4</td>
</tr>
<tr>
<td>Zero night hospital stays (admission and discharge on same day)</td>
<td>117</td>
<td>5.0</td>
</tr>
<tr>
<td>Respondent under 18</td>
<td>4</td>
<td>0.2</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>2332</strong></td>
<td><strong>100.0</strong></td>
</tr>
</tbody>
</table>
Caseload-adjusted Alert Counts Over Field Period

All Types

Month: August, September, October, November/December

Percentage: 30.0%, 25.0%, 20.0%, 15.0%
Alert Occurrence Among Interviewers

Distribution of Alerts Among Interviewers
(Interviewer Counts out of 350-375 Field Interviewers)

- All Types
- All Records
- PM Records
- Zero Nights
- Under 16

- At Least 1 Alert
- Two or More Alerts
- Three or More Alerts
## Key MEPS Statistics: Rx for Older People, 2016

<table>
<thead>
<tr>
<th>Description</th>
<th>Statistic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Population with expense</td>
<td>46,409,000</td>
</tr>
<tr>
<td>Proportion with expense</td>
<td>90.2%</td>
</tr>
<tr>
<td>Number of prescription events</td>
<td>1,304,000</td>
</tr>
<tr>
<td>Mean events/person</td>
<td>25.4</td>
</tr>
<tr>
<td>Mean expenditures/event</td>
<td>$117</td>
</tr>
<tr>
<td><strong>Mean</strong> expenditures/person w/event</td>
<td><strong>$3,289</strong></td>
</tr>
<tr>
<td><strong>Median</strong> expenditures/person wi/event</td>
<td><strong>$1,100</strong></td>
</tr>
<tr>
<td>Total expenditures</td>
<td>$152,602,000,000,000</td>
</tr>
</tbody>
</table>
Conclusion

› Rapid feedback on techniques for asking specific questions related to key survey statistics can improve interviewer performance

› Rapid feedback on raw data collected in the interview can improve interviewer performance

› Rapid feedback can be an effective form of interviewer training

› Improved interviewer performance = improved respondent performance

› Rapid feedback can improve the quality of key survey statistics
Thank You

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